

DESCRIPTIONS OF NEW SPECIES OF AUSTRALIAN  
MOLLUSCA, RECENT AND FOSSIL.

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[Read September 8, 1891.]

Plate XI.

GENUS SIPHONALIA.

It is generally admitted that *Siphonalia dilatata*, Quoy and Gaimard, and *S. Tasmaniensis*, Adams and Angas, are two sufficiently distinct species; with respect to a third species, *S. maxima*, Tryon, in *Manual Conch.*, 1881, p. 135, t. 54, fig. 355, some doubt has been expressed as to its validity, and after lengthened study of considerable material, having traced-up specimens of *S. Tasmaniensis* from three-fourths of an inch in length to those of seven inches, I have no hesitation in regarding *S. maxima* as the senile stage of *S. Tasmaniensis*.

The species inhabiting South Australian waters are:—

**Siphonalia dilatata**; *Fusus dilatatus*, Quoy and Gaimard, *Voy. Astrolabe*, t. 34, figs. 15-16.

This is recorded from Encounter Bay by Angas, 1865, where it is rare.

**Siphonalia Tasmaniensis**, Adams and Angas (*Fusus*), *Proc. Zool. Soc.*, 1863, p. 421, t. 37, fig. 1.

*S. maxima*, Tryon, *op. cit.*

This has a much longer spire than the preceding, narrower body-whorl, less sharply angulated, with more numerous and obtuse tubercles on the keel.

The species was first recorded by Angas from Hardwicke Bay, where it is a common shell; it also lives among stones at extreme low tides in Encounter Bay.

**Siphonalia pyrulata**, Reeve (*Fusus*), *Icon. Conch.*, t. 13, figs. 50a-50b

The type is from Tasmania, but it also occurs in Port Phillip Bay, and, according to Angas, in Spencer-Gulf.

**Siphonalia sulcata**, Lamarck, *sp.*

*Fusus sulcatus*, Lamarck, *An. s. Vert.*, vol. 7, p. 125, 1822.

*Siphonalia (Austrofusus) sulcata*, Tryon, *Man. Conch.*, 1881, p. 138, t. 56, fig. 380.

*Fusus ustulatus*, Reeve, *Icon. Conch.*, t. 17, fig. 66; *id.*, Tryon, *loc. cit.*, p. 66, t. 39, fig. 170.

Judging by the figures representing the Lamarckian species, I am constrained to regard *F. ustulatus*, Reeve, a synonym of it. No locality was known to either Lamarck or Reeve; but Angas recorded *F. ustulatus* from St. Vincent-Gulf, where it has occurred to other collectors in later years. Tryon quotes *S. sulcata* as from South Australia. I have seen Victorian examples of the species.

**Siphonalia oligostira**, *spec. nov.* Plate xi., fig. 6.

This species resembles *S. Mandarinina*, Duclos, of the New Zealand fauna, but the revolving threads on the body-whorl, in particular, are flat and without interstitial threadlets; the whorls are not so regularly convex, being slightly angulated postmedially; the spire is proportionately much broader, and the nucleus consists of one and a half very small turns, whereas in *S. Mandarinus* it is cylindrical, of four whorls.

The species makes a passage between *S. Tasmaniensis* and *S. Mandarinus* in its faint shoulder and obsolete nodosities thereon.

*Dimensions*.—Length, 88.5; width, 42; length of aperture, 56 mm.

Living on rocks at extreme low tides, Guichen Bay (*S. Aust. Mus.*); Encounter Bay (*Dr. Verco*).

GENUS LATIROFUSUS, *Cossmann*.

This genus was established by its author in "Annales de la Soc. Roy. Malacologique de Belgique," 1889, p. 175, to include certain shells having the outline of *Fusus*, the plicated columella of *Latirus*, and a globulose embryo. He referred to it the living *Fusus lancea*, Chemnitz, which probably includes *F. acus*, Adams and Reeve, and two species of *Fusus* described by Deshayes from the Eocene of the Paris basin. I venture to describe a second recent species.

**Latirofusus nigrofuscus**, *spec. nov.* Plate xi., fig. 3.

Shell lanceolate-fusiform, three and a half times as long as wide, aperture one-half of the total length; colour brown under a black epidermis.

Whorls seven and a half; nucleus of one and a half whorls, smooth, hemispheric, and large.

Spire-whorls separated by a linear suture, almost flat, spirally lirate; commencing liræ two, increasing to seven, eight or nine on the penultimate whorl, four of which are usually stouter than the interposed ones. The transverse ornament consists of obscure rounded plications (or they may be wholly obsolete), and of

minute threadlets separated by slightly wider intervals than their width.

Last whorl with a rounded periphery, ornamented with slender transverse threadlets and stout spiral threads, the latter alternately large and small, about 15 in number, or the intermediate ones nearly equal in size to the primaries. The base is rather abruptly contracted into a moderately long, but stout, canal, ornamented with about eight distant spiral liræ, and transverse threadlets. Aperture narrow-elliptic; outer lip lirate within. Columella with two oblique plaits, the anterior one at the origin of the canal; canal nearly closed by a horizontal plate-like extension of the border.

Length from 21 to 22; breadth from 6 to 6.5 mm.

Dredged in life one and a half miles off Edithburgh, St. Vincent-Gulf, in three to four fathoms, by Mr. E. H. Matthews; also in shell-sand, Aldinga Bay (*Kimber*); Hardwicke and Encounter Bays (*Adcock*).

*Diala magna*, *spec. nov.* Plate xi., fig. 9.

Whorls nine; apical whorls two and a half, convex, rapidly diminishing, purplish-black; spire-whorls flat, excavated at the suture, slightly incrassated at the anterior suture, smooth, shining, whitish interrupted by axial flames of reddish-purple.

Penultimate whorl with one to three spiral grooves bordering the anterior suture; the colour-stripes on the grooved surface being broken-up into dots.

Body-whorl with a rounded base; the anterior two-thirds with about nine encircling flat ridges, not so wide as the intervening flat furrows, spotted with purplish-red in the sulci; on the posterior one-third the sulci are obsolete and the colour-spots are confluent but in an alignment with the anterior dots; the whole forming axial bands sigmoidally curved, extending from the suture to the extreme front. Growth-lines fine and regular, conspicuous on the base. Aperture subrotund, outer lip thin, peristome incomplete or thinly continuous, columella simple.

Length, 13.0; breadth, 4.5 mm.

*Habitat*.—Deep water, Port Phillip Bay, Victoria (*J. M. Wilson*).

This species is at once distinguished by its size, its furrowed suture, and the flat distant ribs on the base. Its nearest ally is *D. lauta*, A. Adams, certain individuals of which have a slightly channelled suture, but the basal sulci are linear, and the colour-spots never confluent. Its rounded base separates it from *D. suturalis*, the only other species with distinctly-furrowed suture; whilst the arrangement of the colour is not seen in any other species.

## RECENT AND FOSSIL SPECIES OF LEIOPYRGA.

This genus, founded by Messrs. Adams in 1863, differs from *Bankivia* by its umbilicus. Two living species, both Australian, were described by H. and A. Adams, which remain till now the only representatives of the genus. I have to add one recent species and two from the Older Tertiary of Victoria.

A synopsis of the specific characters is as follows :—

Shell smooth ; earlier spire-whorls subquadrate.	<i>L. picturata.</i>
Shell with spiral ribs.	
Ribs on penultimate whorl, three.	<i>L. cingulata.</i>
Ribs four, truncated, equal, equidistant ; suture excavated.	<i>L. quadricingulata.</i>
Ribs three, equal, wavy, with a small one at each suture.	<i>L. Sayceana.</i>
Ribs eight to ten.	<i>L. octona.</i>

*Leiopyrga picturata*, H. and A. Adams.

*L. picturata*, H. and A. Adams, Ann. Mag. Nat. Hist., 1863, p. 19 ; id., Angas, Proc. Zool. Soc., 1865, p. 181 ; 1867, p. 216.

*Bankivia (Leiopyrga) picturata*, E. A. Smith, Zool. Alert, p. 75.

*Trochus (Leiopyrga) picturata*, Watson Challenger Gastr., p. 65.

*Cantharidus (Leiopyrga) picturata*, Tryon, Man. Conch., vol. xi., p. 140, t. 45, figs. 46-48 (1887).

Adams' type is from Port Jackson, where the species is well-known ; Angas reported it from St. Vincent-Gulf, but it has not since been collected in South Australian waters.

*Leiopyrga cingulata*, A. Adams.

Ref.—Proc. Zool. Soc., 1863, p. 507. *Cantharidus (Leiopyrga) cingulata*, Tryon, *op. cit.*, p. 141. Port Essington.

*Leiopyrga octona*, *spec. nov.* Plate xi., fig. 5.

Shell turritid, narrowly perforate, thin, shining, white, with oblique or axial zigzag pinkish lines.

Whorls eight and a half, moderately convex, separated by a linear suture ; the apical whorls two and a half, turbinately depressed, rufous, smooth. The first two spire-whorls smooth, the third showing faint spiral lines, which increase in strength with the revolution of the spire ; the anterior whorls with about eight to ten equal and equidistant, rounded, and rather depressed cinguli, which are a little wider than the furrows.

Body-whorl equally and regularly cingulated, base convex ; aperture oval ; outer lip thin, crenated on the margin ; columella

thin, but slightly thickened above, and abruptly attenuate to the front, not perceptibly reflexed; umbilical groove smooth.

Length, 10; breadth, 4.5 mm.

*Habitat.*—Royston Head, South Yorke-Peninsula (one ex.); King George Sound (one ex.).

This species resembles *L. picturata* in outline, but differs by its conspicuous cinguli, its convex whorls, and linear suture; from *L. cingulata* it would seem to differ in shape and in its numerous encircling ribs.

***Leiopyrga quadricingulata*, spec. nov.**

Shell turritid, narrowly perforate, thin, internal shell-layer conspicuously perlaceous.

Whorls eight and a half, flatly convex; apical whorls two and a half, smooth, depressed-turbinata; the next two are quadrate, margined at the suture; the following, with an excavated suture, four-ribbed. The ribs are equal, equidistant, compressed, moderately elevated (sometimes having an undulose outline), separated by much wider flat furrows.

Last whorl usually with intermediate smaller ribs between the primaries; periphery rounded.

Traces of colour are visible on some specimens, consisting of a diffused purplish tinge on a white ground.

Length, 11; breadth, 6 mm.

*Habitat.*—One of the characteristic fossils of the Miocene-Tertiary at Muddy Creek; also at Kalimna, Gippsland Lakes, Victoria.

***Leiopyrga Sayceana*, spec. nov.**

Like *L. quadricingulata*, but the penultimate whorl has three primary, compressed, acute cinguli, equal and equidistant, and a slender thread at each suture. The cinguli have an undulate outline by reason of inconspicuous arched folds which traverse the width of the whorls. All the spire-whorls are cingulate; the suture is more or less concealed by the approximation of the sutural threads.

Length, 11; breadth, 5.5 mm.

*Habitat.*—In the Eocene-sandstone on the beach at Beaumaris, near Cheltenham, Port Philip Bay, Victoria; not uncommon, according to Mr. Sayce, to whom I am indebted for several examples.

***Semele monilis*, spec. nov.** Plate xi., fig 7-7a.

Shell ovate-oblong, somewhat compressed, thin, inequilateral, subinequivalve (the right valve slightly flatter than the left). Anterior side the longer, rounded; the posterior side shorter, obliquely truncate in the ventral-half. Ventral margin arched

medially, gradually curving upwards to the rounded anterior extremity, abruptly sloping upwards and outwards to join the post-dorsal slope.

Umbo depressed, acute, approximate : lunule very small, but deeply impressed, broadly lanceolate. The ornamentation consists of rather distant, moderately elevated, rounded, concentric liræ ; and of thick radial threads, separated by nearly as wide flat furrows. The radial threads pass uninterruptedly across the liræ, where by reason of minute crenulations on the lateral faces of the threads, the appearance of punctated furrows is produced. There are six liræ within a breadth of 5 to 10 mm. from the umbo ; the crenulations on the liræ are about 35 in a length of 5 mm. at a distance of 10 mm. from the umbo.

The external colour is a pale-yellow to dirty-white, tinged here and there with rosy blotches having a disposition in the medial and posterior areas to run into flames. The interior is pellucid, changing to opaque-white towards the margin, variegated with blotches and short streaks of a reddish-colour.

*Dimensions.*—Antero-posterior diameter, 21; anterior radius, 11 ; posterior radius, 10 ; ventro-dorsal diameter, 17 ; thickness at a point a little dorsally to the middle line, 7 mm. A large specimen measures 27·5 by 23 mm.

*Habitat.*—Cast-up valves at Aldinga (Mr. Kimber); at Moonta Bay (Mr. McDougall). Fresh shells dredged from 17 to 18 fathoms in Yankalilla Bay by Dr. Verco.

***Tellina Vincentiana*, spec. nov.** Plate xi., fig. 10.

. Shell small, thin, dirty-white, slightly inequivalve (the right valve more convex), considerably inequilateral, the anterior side longer, irregularly ovate, narrowed and pointed behind. Ornamented with close, short, erect lamellæ, becoming fewer and more elevated on the post-dorsal slope, distantly radiate-striated in the interstices ; the lamellæ increase in number by bifurcation at about the middle of the valve, again to unite in pairs close to the front margin.

The front-dorsal margin is a very little convex, and only slightly oblique, the post-dorsal margin being almost rectilinear and very slanting ; the ventral outline is broadly arcuate, more rapidly up-curving in front than behind, posteriorly it has a slight incurvation.

The umbones are small, acute, and a little elevated.

There are two cardinal teeth in each valve, one of which is bifid, and two well-developed lateral teeth in the right valve ; the pallial sinus is wide, fused to the pallial line, and extends across the valve to near the adductor scar.

*Dimensions*.—Antero-posterior, 15·5; umbo-ventral, 12; sectional diameters, 5·25 mm.

*Locality*.—St. Vincent-Gulf, in 17 to 18 fathoms (*Dr. Verco*).

This species is related to *T. languida*, E. A. Smith, but it has a lamelliform and not striated ornament. Mr. Brazier reports to me that "the species is quite new; it is smaller, and allied to *T. margaritina*, Lamarek, from King George Sound; it is a great deal smaller, and in miniature like *T. ostracea*, Lamarek, from India." The dentition of *T. Vincentiana* will not justify its inclusion in the subgenus *Fabulina*, to which Von Bertin refers *T. australis*, Desh., and *T. margaritina*, Lamarek.

***Lucinopsis pellucida*, spec. nov.** Plate xi., fig. 2.

The shell, the diagnostic characters of which here follows, has an external resemblance to *Kellia rotunda* and *Diplodonta globularis*, more especially to the latter by reason of the external ligament. But the internal characters are proper to *Lucinopsis*, as determined by actual comparison with its type-species, *L. undata*.

The left valve has three cardinal teeth; the central tooth is vertical, triangular, and its summit medially excavated, appearing as if bifid; the anterior tooth is lamellar, short, and moderately divergent; the posterior tooth is longer, lamellar, and widely divergent; the anterior cardinal margin has a deep and wide groove.

The right valve has two divergent lamellar teeth, and the cardinal margin in front is furrowed.

The pallial sinus is large, rounded, and ascending, reaching to the middle line of the valve.

Shell rather globose, somewhat circular, and nearly equilateral; it is whitish, slightly glossy, and translucent, ornamented with fine concentric lines and folds of growth, and with delicate radial striæ on the posterior area.

*Dimensions*.—Antero-posterior, 12·5; umbo-ventral, 12; sectional diameters, 7·5.

Dredged in life (two examples) from 12 fathoms in Yankalilla Bay, St. Vincent-Gulf (*Dr. Verco*).

***Crassatella carnea*, spec. nov.** Plate xi., figs. 1, 1a.

Shell suborbicular, rather compressed, almost equilateral; the dorsal margin about equally sloping on both sides, a little arched in front, but rather straighter behind; anterior side rounded, post-ventral margin slightly obliquely truncated (more conspicuously so in young examples); ventral margin moderately curved.

Surface concentrically ribbed, the ribs attenuate laterally, and may or may not be developed to the ventral margin.

The colour is a pale yellow-brown with darker coloured blotches in the median area and before and behind the umbos; sometimes

there are two interrupted brownish-coloured rays bounding the median area.

The interior is rose-tinted and the inner edge of the valves along the ventral margin is minutely crenulated.

*Dimensions*.—Antero-posterior diameter, 22; anterior radius, 10.5; posterior radius, 11.5; dorso-ventral diameter, 19.

*Habitat*.—Dredged in life from nine to fifteen fathoms in Yankalilla Bay, and off Rapid Head by Dr. Verco.

This species is very like *C. aurora* and *C. Banksii*, Adams and Angas, inhabiting Bass-Straits, with regard to colour, ornament and crenated margin of valves. It is, however, of a different form, is as widely removed from *C. aurora* as that species is from *C. Banksii*; thus *C. Banksii* is oblong-ovate, *C. aurora*, transversely ovate, and *C. carnea* is more rotund; they may eventually prove to be variations in shape of an aggregate species.

The proportion of length to the height in *C. carnea* is 14 to 12, and in *C. aurora* it is 15 to 11.

***Pectuneulus sordidus*, spec. nov.** Plate xi., fig. 8.

Shell solid, triangularly ovate, moderately convex or slightly depressed, cardinal area short and narrow, somewhat angulated posteriorly, the post-dorsal region impressedly flattened and narrow.

Surface radiately ridged; ridges 20, broad, subangulated, not prominently elevated, separated by linear furrows; there are five faint ribs on the post-dorsal area; the whole surface crossed by close and fine concentric striæ.

Colour sordid-white, with a few minute chesnut spots about the umbones, and blotches of the same colour about the hinge-line. Interior white, with a faint chesnut-tinge about the post-adductor impression. Inner margin strongly crenated.

*Dimensions*.—Antero-posterior, 20; umbo-ventral, 18; sectional diameters, 10.5 mm.

Dredged in life (one example), from 9 to 11 fathoms, off Rapid Head, St. Vincent-Gulf (*Dr. Verco*).

It has not the shape of *P. Gealei* of the same size, but the general style of ornament is the same; though the ribs of the present shell are more depressed and angular, there is no defined interstitial furrow, and the concentric ornament is finer.

***Leda Verconis*, spec. nov.** Plate xi., fig. 4.

Shell elongate-ovate, moderately compressed, subequilateral; concentrically lirated; covered with a greenish-gray glossy epidermis.

The dorsal margins are equally sloping, the front one a little convex, the posterior slightly concave; the posterior side is



shortly acuminate; a slightly-curved keel defines the dorsal area, which is striated and moderately impressed; the lunule is very narrow and defined.

The concentric liræ are regular, about 30, stout, elevated, and compressedly-rounded, separated by a little wider, flat furrows; they are slightly incurved as they approach the anterior margin, and more conspicuously so towards the posterior keel, though there is no appearance of a second keel.

*Dimensions*.—Antero-posterior, 8; umbo-ventral, 5; sectional diameters, 3·5 mm.

Numerous examples dredged in life by Dr. Verco (after whom the species is named) in Yankalilla Bay; also in shell-sand, Holdfast Bay (*R. T.*).

This is not the young of *L. crassa*, which at the same size has a well-pronounced second keel defining the rostral area. It makes an approach to *L. Dohrni*, Hanley, but has not so straight a hinge-line, and is more convex.

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## A SECOND SUPPLEMENT TO A LIST OF THE LAMELLIBRANCH AND PALLIOBRANCH MOL- LUSCA OF SOUTH AUSTRALIA.

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Chiefly through the dredging operations conducted by Dr. Verco during the past summer several additions have been made to the Lamellibranch-fauna of South Australian waters; several of these are of extreme interest, and I am constrained to found no less than six new species, which are described in the preceding pages.

Addenda and corrigenda to previously recorded species are placed within brackets.

***Thracia speciosa***, *Angas*, Proc. Zool. Soc., 1869, t. 2, fig. 12, p. 48.

Compared with *T. modesta*, this species is oblong and more inequilateral.

A left valve, dredged at 12 fathoms in Yankalilla Bay by Dr. Verco, agrees fairly well with Angas' figure of his *T. speciosa*, though its anterior side is longer, and the height is slightly less. Length, 19·5 mm.; height, 10·5.